

WHAT IS CLAIMED IS:

1. A method of producing electrolyzed water containing ozone by using an apparatus for producing electrolyzed water from a liquid, wherein:

the apparatus comprises two plate electrodes facing each other, a direct current power source for applying a direct current voltage across the electrodes and a control circuit for changing a polarity of the electrodes alternately, wherein the two electrodes define a clearance of 3.0 mm or less between them and define a flow passage extending along them;

the method comprising a first step, a second step and a third step,

in the first step, the liquid being introduced into the flow passage,

in the second step, the direct current voltage being applied across the electrodes by the direct current power source and the polarity of the electrodes being changed alternately at an interval of time T by the control circuit to produce electrolyzed water while the liquid flowing through the flow passage, and

in the third step, the electrolyzed water being let out of the flow passage,

the first, second and third steps being simultaneously and continuously executed;

wherein the time T is defined by formula (10):

$$0.5 \text{ (sec.)} \leq T \leq (1/3) \times (L/V) \quad \dots (10)$$

wherein;

V: Velocity of flow of the liquid in the flow passage (cm/sec.),  
and

L: Length of the electrodes as measured in the direction of flow of the liquid (cm).

2. The method according to claim 1, wherein the time T is set between 0.5 and 60 seconds.

3. A method of producing electrolyzed water containing ozone by using an apparatus for producing electrolyzed water from a liquid;

the apparatus comprising:

an electrolytic cell;

an inlet means for allowing a liquid forced into the cell to flow through;

a first electrode plate placed in the cell;

a second electrode plate placed in the cell and facing the first electrode plate;

a direct current power source for applying a direct current voltage to the first and second electrode plates so as to produce a potential difference therebetween;

a control circuit for changing a polarity of the electrode plates alternately; and

an outlet pipe through which electrolyzed water produced in the cell is let out of the cell;

wherein: the first electrode plate is close to the second electrode plate and the two plates define a clearance of 3.0 mm or less between them and define a flow passage extending along them, and

an interval of time T for changing the polarity of the electrode plates can be set between 0.5 and 60 seconds;

the method comprising a first step, a second step and a third step,

in the first step, the liquid being introduced from the inlet means into the flow passage,

in the second step, the direct current voltage being applied across the two plates by the direct current power source and the polarity of the two plates being changed alternately at the interval by the control circuit to produce electrolyzed water while the liquid flowing through the flow passage, and

in the third step, the electrolyzed water being let out of the outlet pipe,

the first, second and third steps being simultaneously and continuously executed.

4. The method according to claim 3, wherein one of the two plates is a perforated electrode plate having a plurality of through openings, while the other is a non-perforated one not having any such opening.

5. A method of producing electrolyzed water containing ozone by using an apparatus for producing electrolyzed water from a liquid;

the apparatus comprising:

an electrolytic cell;

an inlet means for allowing a liquid forced into the cell to flow through;

a first electrode plate placed in the cell;

a second electrode plate placed in the cell and facing the first electrode plate;

a direct current power source for applying a direct current voltage to the first and second electrode plates so as to produce a potential difference therebetween;

a control circuit for changing a polarity of the electrode plates alternately; and

an outlet pipe through which electrolyzed water produced in the cell is let out of the cell;

wherein: the first electrode plate is close to the second electrode plate and the two plates define a clearance of 3.0 mm or less between them and define a flow passage extending along them, and

each of the electrode plates having non-perforated and perforated portions appearing alternately in the direction of flow of the liquid, the non-perforated portions of one of the electrode plates facing the perforated portions of the other;

the method comprising the step of introducing the liquid from the inlet means into the flow passage to let out the electrolyzed water from the outlet pipe.